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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---------------------------------|-------------|----------------------|----------------------|------------------|
| 09/632,017 | 08/02/2000 | Jerry Wynn Brimer | NORTH-358G/A-2185 D1 | 1088 |
| 7663 | 7590 | 02/25/2004 | EXAMINER | |
| STETINA BRUNDA GARRED & BRUCKER | | | JACKSON, MONIQUE R | |
| 75 ENTERPRISE, SUITE 250 | | | ART UNIT | |
| ALISO VIEJO, CA 92656 | | | PAPER NUMBER | |
| | | | 1773 | 29 |

DATE MAILED: 02/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 09/632,017 | BRIMER ET AL. | |
| | Examiner | Art Unit | |
| | Monique R Jackson | 1773 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11/20/03.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 16,31,36 and 39-46 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 16,31,36 and 39-46 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The amendment filed 11/20/03 has been entered. Claims 17-30, 32-35, and 37-38 have been canceled. New claims 39-46 have been added. Claims 16, 31, 36 and 39-46 are pending in the application.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. The Examiner notes the interview with the Applicant's Attorney Bruce Brunda on 12/9/03 in which the Attorney authorized an Examiner's Amendment to Claims 39 and 46 changing the term "is" to "comprises". However, upon a further review and search, the Examiner notes the following rejections.

Claim Objections

4. Claims 39 and 46 are objected to because of the following informalities: "is" should be "comprises". Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. Claim 36 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 36 recites the limitation "The metal structure of Claim 35" however it is noted that Claim 35 has been cancelled and hence it is unclear as to what is meant to be encompassed by the claim.
6. Claims 39 and 46 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 39 and 46 recite the limitation "The [metal] structure...wherein

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the composite part is resin-impregnated fibers” rendering the claims indefinite for it is unclear whether the Applicant is claiming the composite part with the metal structure and the resin-impregnated fibers or the metal structure alone.

7. Claims 31 and 40-46 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 31 and 40 recite the limitation “leaching temperature” wherein though the original disclosure at the time of filing does not specifically recite this term, Claim 40 defines the term as the temperature at which acid from the composite part leaches iron from the metal surface to produce a less than full-utility composite part out of the structure.

However, the Examiner notes that this temperature is dependent upon the composition of the composite part including the amount of acid, the type of metal or steel, and the composition and thickness of any intermediate layer between the metal surface and the composite part including the cured adhesive material of the invention. Hence, given that the original disclosure at the time of filing does not clearly define the term “leaching temperature”, it is unclear what is meant to be encompassed by the claims given that the term is a relative term based on the above variables and therefore one having ordinary skill in the art would not be reasonably apprised of the scope of the claimed invention and could not interpret the metes and bounds of the claim so as to understand how to avoid infringement.

8. Claims 40-46 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The end of Claim 40 recites the limitation “the mixture having an operating temperature greater than the forming temperature, the operating temperature being up to 700°F

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and a temperature at which the mixture when interposed between the composite part and metal surface prevents acid from the composite part from leaching iron from the metal surface to produce a full-utility composite part out of the structure.” (Emphasis added) It is unclear to the Examiner what the bolded limitation “and a temperature...” refers to given that the statement prior to this limitation refers to the operating temperature being up to 700°F. The claim appears to be incomplete or missing wording given that this final phrase appears to be a separate limitation from the operating temperature.

Claim Rejections - 35 USC § 102

9. Claims 16, 31, 40, and 42-45 are rejected under 35 U.S.C. 102(e) as being anticipated by Tanaka et al (USPN 5,993,975.) Tanaka et al teach a coating composition which is capable of forming a coating on various substrates, such as a steel plate which is desirably zinc or zinc alloy-plated steel plate such as galvanized steel, wherein the coating film is superior in processability, corrosion resistance, adhesive property, impact resistance, and scratch resistance (Abstract; Col. 6, lines 66-10.) The coating composition comprises a polyester resin and a melamine resin curing agent which together constitute a curable adhesive material, a rust preventive pigment, and organic polymer fine particles which do not melt and flow out during the curing of the composition applied and, even after the curing, remain as particles, particularly preferable is polyamide resin like nylon 11 or nylon 12 (Abstract; Col. 5, lines 31-47.) The particles have an average particle diameter of 0.2-80 microns and can impart rough texture on the coating film surface (Col. 5, lines 31-37.) The coating composition may be applied to the substrate utilizing various coating methods and after application is preferably cured at 160-260°C to provide on the metal surface a cured coating layer comprising polyamide fine particles (Col. 7,

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lines 51-9.) Tanaka et al specifically teach an example utilizing a coating composition comprising an 80/20/10 weight ratio of polyester resin to melamine resin to nylon fine particles, respectively, coated on a hot-dip-galvanized steel surface and baked for 60 seconds at such temperature that the maximum temperature of the based material, the steel plate, became 220°C (Example 1) wherein the Examiner takes the position that the galvanized steel surface taught by Tanaka et al reads upon the broadly claimed genus “steel” and wherein the cured, crosslinked coating taught by Tanaka et al would inherently meet the instantly claimed limitations with respect to forming temperature and leaching temperature given that the materials are the same as instantly claimed.

Claim Rejections - 35 USC § 103

10. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Vassiliou (USPN 4,183,998.) Vassiliou teaches a resin coating and substrates, such as metal substrates, coated with the resin coating wherein the cured coating is a crosslinked polysiloxane resin layer comprising a uniformly dispersed phase of particulate organic modifier that is tougher than the polysiloxane, such as polyamide-imide resin, having an average particle size of 0.1-15 microns, preferably 0.5-5 microns (Abstract; Col. 2; Col. 3, lines 22-51; Col. 6, lines 50-55.) Vassiliou teach that the coatings are preferably applied directly to the metal surface and are baked at temperatures and times suitable for curing the polysiloxane resins, normally in the range of 400-900°F, and that the coated substrates are suitable for stove-top or oven baking cookware, and hence the Examiner takes the position that the cured coatings meet the limitation “being able to produce a formed composite part at temperature levels between 500°F and 700°F as instantly claimed (Col. 1; Col. 4, lines 57-62; Col. 7, lines 5-60.) Though Vassiliou does not specifically

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teach that the metal substrate is a steel substrate, steel is an obvious species of metal utilized in the art and would have been obvious to one having ordinary skill in the art at the time of the invention.

11. Claim 41 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka et al. The teachings of Tanaka et al are discussed above. Tanaka et al teach that the particles preferably have an average particle diameter of 0.2-80 microns and may impart a rough texture on the coating film surface but do not teach that the particulate has a total surface area of about 0.008 square inches as instantly claimed. However, it is well known in the art that the particle size and surface area of particles dispersed in a coating are result-effective variables affecting the roughness or smoothness of the coating surface and hence one having ordinary skill in the art at the time of the invention would have been motivated to determine the optimum particle size and surface area to provide the desired coating surface properties for a particular end use.

Response to Arguments

12. Applicant's arguments filed 11/20/03 have been considered but are moot in view of the new ground(s) of rejection.

Allowable Subject Matter

13. The Examiner notes that the instant application may contain allowable subject matter with respect to a fiber-reinforced resin composite part comprising a steel substrate and a cured resin layer in between the steel substrate and the fiber-reinforced resin material wherein the cured resin layer comprises dispersed polyamide particles, is resistant to temperatures up to 700°F, and prevents acid in the composite from leaching iron from the steel substrate. The

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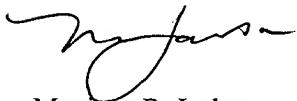
Examiner notes that the prior art references do not teach a fiber-reinforced resin composite part comprising the coated steel substrate.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Monique R Jackson whose telephone number is 571-272-1508.

The examiner can normally be reached on Mondays-Thursdays, 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul J Thibodeau can be reached on 571-272-1516. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Monique R. Jackson
Primary Examiner
Technology Center 1700
February 17, 2004